

a potable water line in fluid communication with a potable water source;  
a feed system in fluid communication with the potable water including  
at least one proportioning device for proportionally determining the amount of chemical  
placed in the potable water line; the chemical including a dispersant and chelant;  
at least one pump in fluid communication with at least one of the chemicals, the proportioning  
device structured in combination to meter at least one chemical into the potable water line in an  
amount determined at least in part by a measured flow rate.

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30. The potable water treatment system of claim 29 wherein at least one pump is in fluid communication with a chelating chemical and the proportioning device is structured in combination to meter a chelating chemical into the potable water line in a proportion determined at least in part by a measured flow rate.

31. The potable water treatment system of claim 29 that includes at least one filter in the potable water line structured to remove particulate matter and to control one or more characteristics of the potable water's taste, odor, organic content and turbidity.

32. The potable water treatment system of claim 31 wherein the comprises at least one material including activated carbon, anthracite, zeolite, clays or any combinations thereof .

33. The potable water treatment system of claim 29 wherein the number of controlling pumps are piston, peristaltic or gear.

34. The potable water treatment system of claim 29 wherein the number of chemicals are added separately, continuously or intermittently and in any state of the potable water, such states consisting of solid, liquid, solution or any combination thereof solution.

35. The potable water treatment system of claim 29 wherein effective components of the number of chemical additives consist of any required amounts of a number of chelants, any required

amounts of a number of dispersants, any required amounts of a number of oxidizers, any required amounts of a number of corrosion inhibitors or any combination thereof.

36. The potable water treatment system of claim 36 wherein at least one oxidizer includes potassium permanganate, bleach, aqueous ozone, hydroxides, chlorine dioxides, muriatic acids or any combinations thereof.

37. A potable water treatment system for use with a potable water line, said system comprising:

a potable water line in fluid communication with a potable water source;  
at least one measuring device for measuring characteristics of the potable water in the potable water line;

a feed system in fluid communication with the potable water including  
at least one proportioning device for proportionally determining the amount of chemical placed in the potable water line; the chemical including a dispersant and chelant;

at least one pump in fluid communication with at least of the chemicals, the proportioning device structured in combination to meter at least one chemical into the potable water line in an amount determined at least in part by the measuring device.

38. The potable water treatment system of claim 38 wherein the measuring device is differential pressure, ultrasonic, magnetic or any other type that is capable of measuring quantity, quality or both of the potable water.

39. The potable water treatment system of claim 38 wherein the required amounts of the number of chemicals are determined by measuring quantity, rate of flow, temperature, pH, chemical content, alkalinity, metal content, organic content, odiferous content, calcium hardness or any combinations thereof of the potable water.

*A* 41<sup>40</sup> The potable water treatment system of claim 40 wherein the alkalinity of the potable water is maintained such that the pH of the potable water line is not less than 7. material including activated carbon, anthracite, zeolite, clays or any combinations thereof.

42. The potable water treatment system of claim 29 wherein the number of controlling pumps are piston, peristaltic or gear.

*A* 43. The potable water treatment system of claim 29 wherein the number of chemicals are added separately, continuously or intermittently and in any state of the potable water, such states consisting of solid, liquid, solution or any combination thereof solution.

44. The potable water treatment system of 36 wherein the number of chelants consist of water-soluble phosphates.

45. The potable water treatment system of 44 wherein the phosphate polymers consist of phosphoric acid esters, phosphoric acids, metaphosphates, hexametaphosphates or any combinations thereof.

46. The potable water treatment system of claim 36 wherein the number of dispersants consist of acids, low-molecular weight anionic polymers or any combination thereof.

47. The potable water treatment system of claim 46 wherein the low molecular weight anionic polymers consist of acrylic polymers.

48. The potable water treatment system of claim 47 wherein the acrylic polymers consist of acrylic acid, maleic acid, fumaric acid, itaconic acid, crotonic acid, cinnamic acid, vinyl benzoic acid or any combinations thereof.

49. A method for treating potable water, comprising:  
measuring at least the flow rate of potable water from a potable water source in a potable water line; and

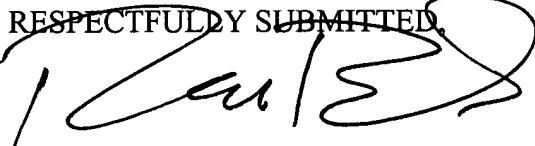
metering by pumping, in proportion to measured flow, at least one of a dispersing chemical and a chelating chemical into the potable water line proximate a junction of the line with a consumer unit.

50. The treatment system of claim 31 wherein at least one filter is placed in the potable water line subsequent to a pump in fluid communication with a chelating chemical.

51. The treatment system of claim 31 wherein at least one filter is placed in the potable water line preceding any pumps in fluid communication with an chemical.

52. The treatment system of claim 31 wherein at least one filter is placed in the potable water line subsequent to both a pump in fluid communication with a chelating chemical and a pump in fluid communication with a dispersant chemical but preceding any pumps in fluid communication with a oxidant.--.

RESPECTFULLY SUBMITTED,

  
ROBERT M. BOWICK, JR.

Reg. # 46,769  
1900 West Loop South, Suite 1800  
Houston, Texas 77027  
(713) 355-4200 Telephone  
(713) 355-9689 Facsimile

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